

REMARKS

This Response is submitted in reply to the Office Action dated January 8, 2008, in which claims 1-4, 15-18, 26-30, 39, 40, 44-49, 51, 57, 58, 64, 66, 67 and 69 were rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen (US 5,935,914) in view of Li (US 6,214,777 B1) and Zeman (US 6,458,343 B1); claims 19-24, 41, 56, 65, and 70 were rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1, 30, 44, 57, and 67 above, and further in view of Person Hei (US 5,723,418); claim 25 was rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen in view of Li, Zeman and Person Hei as applied to claim 24 above, and further in view of Login (US 4,395,373); claims 9-13, 35, 36, and 38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1 and 30 above, and further in view of Gerke (US 2004/0072704 A1); claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1 and 30 above, and further in view of Behler (US 4,894,485).

With this Amendment, claims 1, 12, 13, 17-19, 30, 39, 44, 57 and 67 have been amended. In view of the following remarks, pending claims 1-4, 9-30, 35, 36, 38-49, 51, 56-58, 64-67, 69 and 70 are in condition for allowance. Reconsideration and notice to that effect are respectfully requested.

Rejections under 35 U.S.C. §103(a)

In the Office Action, claims 1-4, 15-18, 26-30, 39, 40, 44-49, 51, 57, 58, 64, 66, 67, and 69 were rejected as being unpatentable over Theyssen in view of Li and Zeman. Independent claims 1, 30, 44, 57 and 67 have been amended to clarify that the defoamer, having the specific range of a C₉ to C₁₁ propoxylated alcohol, reduces initial foam and 5-minute foam. Theyssen, Li and Zeman do not individually or in combination disclose, suggest or teach that C₉ to C₁₁ propoxylated alcohols reduce initial foam and 5-minute foam. As conceded in the Office Action, Theyssen does not specifically disclose a C₉ to C₁₁ propoxylated alcohol. The Examiner attempts to fill this deficiency by relying on Li. Li generally discloses using alkoxylated alcohols having 8 to 24 carbon atoms (Col. 7, lines 18-25). However, Li fails to point out any criticality in whether the alcohol is an ethoxylated/propoxylated alcohol or a propoxylated

alcohol. In fact, Li discloses that ethoxylated alcohols are preferred. (Col. 7, lines 18-25). Li also fails out to point out any criticality in the range of carbon atoms. There is no support in Theyssen, Li or Zenman to optimize foam destabilizing properties of a lubricant using a C₉ to C₁₁ propoxylated alcohol.

By contrast, amended independent claims 1, 30, 44, 57 and 67 recite a C₉ to C₁₁ propoxylated alcohol defoamer that reduces initial foam and 5-minute foam. The alkyl chain length is significant because it affects the solubility in water. Surfactants with propoxyl groups are less water soluble than surfactants with ethoxyl groups, such as C₈ to C₁₀ alkoxylated alcohols. Although lower water solubility is a key factor to defoaming, propoxylated alcohols have not typically been used because they are harder to keep in solution. However, using a C₉ to C₁₁ propoxylated alcohol, there is adequate water solubility and good defoaming properties. As stated in the specification, “Suitable foam destabilizers include those that fall under the general category of non-ionic surfactants. One class of suitable non-ionic surfactants includes the alkoxylated alcohols including propoxylated alcohols. Suitably, the [propoxylated] alcohol has about 8 to 16 carbon atoms, more suitably about 9 to 11 carbon atoms.” (Page 6, lines 32-34 and Page 7, lines 1-2). “A specific example of a suitable alkoxylated alcohol includes, but is not limited to, DEGRESSAL® SD 20, a propoxylated alcohol.” (Page 7, lines 3-5).

Furthermore, foam testing was conducted on various formulas according to Test Method No. 7 described at lines 21-34 on Page 15 and lines 1-3 on Page 16 of the specification. The composition of Example 1 included a C₉ to C₁₁ propoxylated alcohol and the composition of Comparative Example L included a C₈ to C₁₀ ethoxylated and propoxylated alcohol. As can be seen, the composition of Comparative Example L did not perform as well as the composition of Example 1 in destabilizing foam, measured as a function of initial foam height and foam height after 5 minutes. (Page 23, Table 10). The composition of Example 1 had an initial foam of 295 mls while the composition of Comparative Example L had an initial foam of 310 mls, a difference of about 15 mls. In addition, the initial foam of the composition of Example 1 decreased to 280 mls after 5 minutes, a decrease of about 5%. The initial foam of the composition of Comparative Example L decreased to 305 mls after 5 minutes, a decrease of less than 2%. A previous Declaration was submitted indicating that the functions of the additional components in the compositions would have no effect on the foam destabilizing properties of the

compositions. The foam destabilizing performance of the composition of Example 1 compared to Comparative Example L highlights the criticality of utilizing a C₉ to C₁₁ propoxylated alcohol to reduce initial foam and 5-minute foam.

Theyssen, Li and Zeman do not individually or in combination disclose, suggest or teach that C₉ to C₁₁ propoxylated alcohols reduce initial foam and 5-minute foam. Thus, independent claims 1, 30, 44, 57 and 67 are in condition for allowance. The rejections of claims 1, 30, 44, 57 and 67 should therefore be withdrawn and claims 1, 30, 44, 57 and 67 allowed. In that claims 1, 30, 44, 57 and 67 are in condition for allowance, the rejections of claims 2-4, 15-18, 26-29, 39, 40, 45-49, 51, 58, 64, 66, and 69 should be withdrawn and claims 2-4, 15-18, 26-29, 39, 40, 45-49, 51, 58, 64, 66, and 69 allowed.

In the Office Action, claims 19-24, 41, 56, 65, and 70 were rejected as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1, 30, 44, 57, and 67 above, and further in view of Person Hei. In that independent claims 1, 30, 44, 57 and 67 are in condition for allowance, the rejections of claims 19-24, 41, 56, 65 and 70, which depend therefrom, should be withdrawn and claims 19-24, 41, 56, 65 and 70 allowed.

In the Office Action, claim 25 was rejected as being unpatentable over Theyssen in view of Li, Zeman and Person Hei as applied to claim 24 above, and further in view of Login. In that independent claim 1 is in condition for allowance, the rejection of claim 25, which depends therefrom, should be withdrawn and claim 25 allowed.

In the Office Action, claims 9-13, 35, 36, and 38 were rejected as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1 and 30 above, and further in view of Gerke. In that independent claims 1 and 30 are in condition for allowance, the rejections of claims 9-13, 35, 36 and 38, which depend therefrom, should be withdrawn and claims 9-13, 35, 36 and 38 allowed.

In the Office Action, claim 14 was rejected as being unpatentable over Theyssen in view of Li and Zeman as applied to claims 1 and 30 above, and further in view of Behler. In that independent claim 1 is in condition for allowance, the rejection of claim 14, which depends therefrom, should be withdrawn and claim 14 allowed.

Claim Amendments

Claims 12 and 13 have been amended to correct typographical errors submitted in the first Amendment filed on November 27, 2006, in which the word "propoxylation" in claims 12 and 13 was inadvertently changed to "ethoxylation". Claims 12 and 13 have been amended such that the claims are as originally submitted. No new matter has been added.

Claims 18 and 19 have been amended to correct typographical errors submitted in the first Amendment filed on November 27, 2006, in which claim 17 was inadvertently repeated in claim 18. Claims 18 and 19 have been amended such that the claims are in the form as originally submitted, along with a grammatical amendment in claim 19. No new matter has been added.

Claims 17 and 39 have been amended to correct a typographical error made in the original submission. Claims 17 and 39 have been amended to clarify that the weight percent of ether carboxylate is 0.5% to 15%. No new matter had been added.

Conclusion

In summary, pending claims 1-4, 9-30, 35, 36, 38-49, 51, 56-58, 64-67, 69 and 70 are believed to be patentable for at least the reasons described above. Reconsideration and notice to that effect are respectfully requested. If there are any remaining questions, the Examiner is requested to contact the undersigned at the number listed below.

Respectfully submitted,

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Attachments

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APPENDIX

- Declaration of Richard O. Ruhr (executed April 16, 2007)
- Exhibit A
- Exhibit B